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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,759	01/10/2002	Uwe Glatzel	225MU/50807	3217

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EXAMINER

SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,759

Applicant(s)

GLATZEL ET AL.

Examiner

John P. Sheehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 4 to 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bornstein et al. (Bornstein, PCT Document No. WO 93/24683, cited in the IDS submitted January 10, 2002 as reference AK).

Bornstein teaches a single crystal nickel based superalloy for use in gas turbine engines (page 1, lines 9 and page 2, lines 15 to 18). The alloy composition disclosed by Bornstein has a composition that overlaps applicants' claimed alloy composition (page 5, the table). Bornstein teaches that the turbine parts are made by simply casting the molten alloy as recited in instant claim 8 (page 4, lines 2 to 20 and Figure 1).

Applicants' claims and Bornstein differ in that Bornstein does not teach the specific proportions recited in the applicants' claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Bornstein overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious

to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Response to Arguments

3. Applicant's arguments filed February 4, 2004 have been fully considered but they are not persuasive.

The rejection in view of Nguyen-Dinh (Nguyen, US Patent No. 4,935,072) has been overcome in view of the combination of the amendment to all the independent claims adding the limitation requiring that the claimed alloy contain “2.0 to 2.6% by weight tantalum” and applicants' argument that Nguyen requires 7 to 10% by weight tantalum (column 3, line 24).

With respect to Bornstein, applicants, while acknowledging that there is an overlap with the claims argues that, “the claimed invention provides a number of unexpected advantages over the broad disclosure of Bornstein et al.” In support of this allegation applicants have submitted a declaration by Dr. Thomas Mack.

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4. The declaration under 37 CFR 1.132 filed February 4, 2004 is insufficient to overcome the rejection of claims 1, 2 and 4 to 18 based upon Bornstein as set forth in the last Office action because:

I. With respect to the alloy compositions in Table 1 of the declaration, it is not clear that each of the listed alloys was actually prepared. For example, for alloy LEK94 there are listed low, high and norm proportions. It is not clear what this means. Was each of these versions of LEK94 actually prepared? If all three of the LEK94 alloys were prepared which one is referred to in Figures 1 and 9 of the declaration, the low, high or norm version of LEK94? In like manner, the same lack of clarity and the same questions exist with respect to Bornstein et al. and Nguyen-Dinh et al.'s low, high and norm alloys.

II. The alloy compositions representative of the instant invention (Table 1, Alloys SX3-SX6) are not commensurate in scope to the claimed invention. As drafted independent claims 1, 2, 8 and 18 place no limits on the amount of aluminum, chromium and cobalt, therefore these claims merely require the presence of aluminum, chromium and cobalt in any amount, which encompasses from a very minor amount, e.g. 0.0001wt% to a major amount e.g. 40 wt%. However, Alloys SX3-SX6 (Table 1 of the declaration) each contains aluminum, chromium and cobalt in very narrow ranges;

Aluminum 6.35 to 6.42-wt%

Chromium 5.75 to 5.82 wt% and

Cobalt 7.27 to 7.35-wt%.

In view of this, the alloy compositions in the declaration representing the instantly claimed invention are not commensurate in scope to the claimed invention.

Accordingly, the data set forth in the declaration is not persuasive, MPEP 716.02(d).

III. In like manner, claims 2 and 18 place no limits on the amount of tungsten, therefore these claims merely require the presence of tungsten in any amount, which encompasses from a very minor amount, e.g. 0.0001wt% to a major amount e.g. 40 wt%. However, Alloys SX3-SX6 (Table 1 of the declaration) contain;

Tungsten 3.05 to 3.56 wt%.

In view of this, the alloy compositions in the declaration representing the instantly claimed invention are not commensurate in scope to the claimed invention.

Accordingly, the data set forth in the declaration is not persuasive, MPEP 716.02(d).

IV. Regarding the alloy density (declaration, page 3 and applicants' remarks page 7, 2nd full paragraph) it is the Examiner position that Alloys SX1-A, SX1-B, SX1-C and SX2-SX6 in Table 1 of the declaration all have compositions that are encompassed by the Bornstein's disclosed alloy composition. These alloys have densities of 8.15, 8.17, 8.16 and 8.21 g/cm³ respectively and are not significantly different from the densities of LEK94low, LEK94, high, LEK94norm and Alloys SX3-SX6 which have densities of 8.16, 8.11, 8.14, 8.14, 8.17, 8.17 and 8.16 g/cm³ respectively. In the applicants' remarks page 7, 2nd full paragraph, applicants state that the "densities which were calculated for the Bornstein et al. alloys shown in Table 1" (emphasis added by the Examiner). Since applicants did not refer to the alloys according to the alloy designations used in Table 1, it is not clear which alloys applicants are referring to.

Further, these densities values have not actually been measured but rather were calculated. Applicants have not explained how the densities were calculated, the assumptions made in making the calculations nor the accuracy of the method involved. In view of this, applicants' comparison between measured values for their alloys and calculated values for the prior art alloys is not considered to be an appropriate comparison.

V. Applicants refer to Figure 2 of the declaration regarding alloy strength (declaration, page 4, applicants' response page 7, first full paragraph). The Examiner does not consider Figure 2 to be persuasive. Besides the Re content, the alloy composition of the alloys depicted in Figure 2 are not known, therefore it is impossible to evaluate the significance of the Figure 2. In view of the fact that the alloy compositions are not known, the results in Figure 2 may be have been caused by elements other than Re content.

VI. On pages 5 to 8 of the declaration applicants have drawn conclusions regarding Figures 3 to 6. It is not clear how applicants arrived at these conclusions. Figure 5 is given little if any weight in that the compositions of the alloys on which Figure 5 is based are not known.

VII. On page 9 of the declaration it is not clear what the term, "the coating" refers to (Figure 9 and the text above Figure 9, line 3). Contrary to Dr. Mack's conclusion, that the LEK94 alloy (an alloy exemplifying the instant invention) is free of undesirable TCP needles the image depicting alloy LEK94 appears to have TCP just above the coating layer. This position by the Examiner is supported by the fact that

lines emanating from between the two images of Figure 9 indicate the presence of TCP in each image.

VII. the discussions and conclusions on pages 8 and 9 of the declaration are based on alloy LEK94, a single embodiment of the claimed invention. In view of this, the Declaration is not considered to be commensurate in scope to the claims, In re Dill 202 USPQ 805 and MPEP 716.02(d). General superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, In re Greenfield, 197 USPQ 227, 230 and MPEP 2144.08 (B).

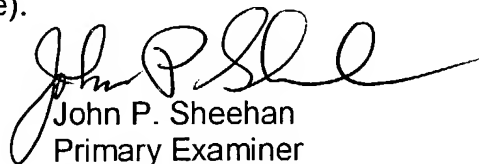
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps